

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

CORRECTED VERSION

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
30 November 2000 (30.11.2000)

PCT

(10) International Publication Number
WO 00/71080 A3

- (51) International Patent Classification⁷: C12Q 1/68, G01N 33/53, C07K 1/00, A61K 38/00
- (21) International Application Number: PCT/US00/13961
- (22) International Filing Date: 20 May 2000 (20.05.2000)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 60/135,035 20 May 1999 (20.05.1999) US
- (71) Applicant (for all designated States except US): **UNIVERSITY OF UTAH RESEARCH FOUNDATION** [US/US]; 210 Park Building, Salt Lake City, UT 84112 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **BOLGER, Graeme, B.** [CA/US]; 1397 East Arlington Drive, Salt Lake City, UT 84103 (US). **HOUSLAY, Miles, D.** [GB/GB]; Pharmacology Group, Dvn. of Biochemistry & Molecular Biology, Davidson & Wolfson Buildings, University of Glasgow, University Avenue, Glasgow G128QQ (GB). **STEELE, Michael, R.** [US/US]; 1258 Harrison Avenue, Salt Lake City, UT 84105 (US). **YARWOOD, Stephen, J.** [GB/CA]; Ontario Cancer Institute, Research Department, 8th Floor, Room 208, 610 University Avenue, Toronto, Ontario (CA).
- (74) Agents: **HOWARTH, Alan, J.** et al.; Clayton, Howarth & Cannon, P.C., P.O. Box 1909, Sandy, UT 84091-1909 (US).
- (81) Designated States (*national*): AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
- Published:**
— with international search report
- (88) Date of publication of the international search report: 15 March 2001
- (48) Date of publication of this corrected version: 20 December 2001
- (15) Information about Correction: see PCT Gazette No. 51/2001 of 20 December 2001, Section II
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: INTERACTION OF THE CYCLIC-AMP-SPECIFIC PHOSPHODIESTERASE PDE4D5 WITH RACK1

(57) Abstract: It has been discovered that the cAMP-specific phosphodiesterase, PDE4D5, interacts specifically and with high affinity with the Receptor for Activated C-Kinase (RACK1). The region of PDE4D5 that interacts with RACK1 was determined, and it was shown that peptides spanning this region inhibit the specific interaction of PDE4D5 and RACK1. Drugs that inhibit or stimulate this interaction should be therapeutically important for treating various conditions. A method for screening candidate drugs involves detecting inhibition or stimulation of this interaction of the peptide and RACK1. Peptides that modulate this interaction and methods of making thereof are also disclosed.

WO 00/71080 A3